NMFS Response to Public Comments
on the
Hood Canal and Eastern Strait of Juan de Fuca
Summer Chum Salmon Recovery Plan

May 11, 2007

Prepared by

National Marine Fisheries Service (NMFS)
Northwest Region

Response to Public Comments Received on the Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Recovery Plan

The Hood Canal Coordinating Council (HCCC), a watershed-based Council of Governments, submitted a Recovery Plan for Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Salmon (the HCCC Plan) to NOAA's National Marine Fisheries Service (NMFS) in November 2005. NMFS reviewed the Plan and prepared a draft Supplement, which, together with the HCCC Plan, constituted the proposed Recovery Plan (Recovery Plan). On August 16, 2006, NMFS published a Federal Register Notice (71 FR 47180) soliciting comment on the proposed Recovery Plan. The public comment period closed October 16, 2006. To facilitate public participation, NMFS made the HCCC Plan and draft Supplement available for public comment on the NMFS website: http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Puget-Sound/Hood-Canal-Plan.cfm.

NMFS received three comment letters by mail, from a state agency and two nonprofit watershed and river protection organizations. NMFS reviewed all comments received for substantive issues and new information. Within the three letters, NMFS identified eight separate comments, which are addressed in the following summary. NMFS has amended the Supplement as appropriate.

Together, the HCCC Plan and the NMFS final Supplement constitute the final ESA Recovery Plan for Hood Canal Summer Chum Salmon (the Recovery Plan). The final Supplement supersedes the draft Supplement. The ESA Recovery Plan for Hood Canal Summer Chum Salmon is available at http://www.nwr.noaa.gov/Salmon-Recovery-Planning/ESA-Recovery-Plans/Index.cfm and http://www.wa.gov/hccc.

NMFS acknowledges the high quality of the comments and the great care with which the individuals and organizations responded to the HCCC Plan and Supplement. Salmon are important to the people of the Pacific Northwest, and NMFS recognizes that public participation is essential to the task of protecting this precious natural resource. The HCCC Plan is the product of several years of work on the part of numerous state, Tribal, local, and Federal organizations and individuals throughout the Hood Canal region, supported by funding from state and Federal sources through the Salmon Recovery Funding Board and additional funding from local jurisdictions. As such, the Recovery Plan is a remarkable public achievement, and NMFS intends to move forward to the long-term collaboration that will be necessary to implement it.

Comment #1: One commenter suggested the HCCC Plan is incomplete and insufficient as a recovery effort for summer chum without inclusion of ongoing and proposed projects in the Tarboo watershed.

Response: NMFS acknowledges the importance of preserving, restoring, and replacing habitat important for summer chum salmon survival and productivity in the recovery plan area. NMFS believes the HCCC Plan categorizes watersheds within the Plan area appropriately with regard to their standing as summer chum habitat. Although habitat within Tarboo Creek and Dabob and Tarboo Bay marine waters likely contributes to habitat structures and functions important to summer chum population persistence and survival, these areas have been given lower priority than watershed areas inside and

outside of the Quilcene Conservation Unit, where summer chum salmon populations currently exist, or where they were recently extirpated. The appropriate habitat recovery actions and strategies for Tarboo Creek, considering the lack of an extant or recently extirpated summer chum population in the creek, are protection and passive restoration of watershed processes. Active restoration actions within the Tarboo Creek watershed as proposed by the commenter are not viewed as a high priority relative to actions needed for other watershed areas within the Plan area. Accordingly, the HCCC Plan specifically proposes freshwater and associated nearshore habitat actions for the Big Quilcene and Little Quilcene river watersheds for implementation. As noted in the HCCC Plan, much of the Tarboo Creek estuary is already protected through its inclusion in state-owned Natural Area Preserves, including the lower mile of Tarboo Creek and its coastal spits and adjoining upland forest.

NMFS has included nearshore and estuarine areas associated with Tarboo Creek as designated critical habitat for Hood Canal summer chum salmon. Tarboo Creek itself is not included as critical habitat for summer chum because it was not occupied by the species at the time of listing nor was a population recently present but extirpated.

Comment #2: One commenter concluded that the HCCC Plan relies on two assumptions that the commenter believes are questionable for promoting dispersal of summer chum populations. The first questionable assumption, according to the commenter, is that stock transfers/reintroductions can be done without biological limitations (specifically genetic, fish disease, and other ecological impact considerations), and without using "reserves" as an alternative approach. The second is that hatcheries alone can be used to overcome limitations in habitat.

***Response*:** NMFS believes that neither of these assumptions forms a basis for the recovery approach proposed through the HCCC Plan. The plan carries forth artificial propagation, harvest management, and habitat protection, restoration, and recovery measures described in the *Summer Chum Salmon Conservation Initiative* (SCSCI) (WDFW and PNPTT 2000, available for downloading at http://wdfw.wa.gov/fish/chum/chum.htm. NMFS disagrees with the commenter's first assumption; the summer chum salmon supplementation and reintroduction actions described in the SCSCI were specifically developed to limit the genetic, ecological and environmental effects of the actions on populations identified as at high or moderate extinction risk within the summer chum salmon ESU. The SCSCI includes application of risk reduction measures, such as limitation of programs to 12 years of operation to reduce the risk of genetic diversity reduction effects, stringent broodstock collection, rearing, and fish release criteria, and designation of watersheds with relatively healthy summer chum populations as reserves where supplementation would not be used. Extensive monitoring and evaluation requirements for each program are also required to ensure that the programs are operated to meet their objectives for population preservation, recovery, and limitation of unwanted effects.

In a biological opinion completed for the proposed supplementation and reintroduction programs and their associated monitoring and evaluation actions in 2002, NMFS

determined that the Hood Canal summer chum salmon artificial propagation programs are not likely to jeopardize the continued existence of the listed Hood Canal summer chum salmon ESU, based on evaluation of the best available science and information, the environmental baseline for the action area, the effects of Federally funded and interrelated and interdependent non-Federally funded artificial propagation programs in the action area, and the cumulative effects (NMFS 2002, available at: http://www.nwr.noaa.gov/Publications/Biological-Status-Reviews/upload/SR2005-allspecies.pdf). NMFS concluded in additional ESA evaluations of the summer chum supplementation and reintroduction programs that the programs plans adequately addressed all of the criteria specified in the ESA 4(d) Rule Limit 5 for listed Hood Canal summer chum salmon, allowing exceptions to take prohibitions defined in Section 9 of the ESA. The summer chum hatchery programs have operated under the approved hatchery and genetic management plans since that time. These Federal evaluations were provided for public review and comment prior to the release of final ESA determinations regarding the hatchery programs. No substantive comments challenging the ESA effects determinations proposed by NMFS for these artificial propagation programs were received.

NMFS does not concur with the commenter's second assumption regarding how hatcheries are incorporated into recovery planning in the proposed HCCC Plan. Nowhere in the HCCC Plan, the SCSCI, or the ESA-approved summer chum supplementation and reintroduction programs is it stated or assumed that hatcheries can overcome limitations on habitat. On the contrary, the supplementation and reintroduction approach implemented under the HCCC Plan is based on the major tenet that recovery of summer chum salmon populations cannot succeed without commensurate improvements in habitat needed to sustain the populations over the short and long terms (WDFW and PNPTT 2000). In particular, the designed limit on the allowable duration of the hatchery programs makes the need to protect and restore habitat paramount. Of the eight supplementation and reintroduction programs approved by NMFS, four have been terminated after completion of their 12-year duration of operation, and after meeting stock restoration objectives. Watershed-specific habitat protection and restoration recommendations included in the SCSCI are now being carried forth in the HCCC Plan as necessary measures to recover summer chum salmon.

***Comment #3*:** One commenter stated that it was unclear how closely the habitat priorities proposed in the HCCC Plan coincided with designated critical habitat for summer chum salmon.

***Response*:** In 2005, NMFS designated critical habitat to include all watersheds occupied by summer chum salmon at the time of listing, including the nearshore and most marine waters of Hood Canal and the eastern Strait of Juan de Fuca (see: http://www.nwr.noaa.gov/Publications/FR-Notices/2005/upload/70FR52739.pdf. Also included were three watersheds not occupied by summer chum at the time of listing, but that had recently harbored summer chum populations. The HCCC Plan directs habitat protection and restoration by prioritizing implementation of actions for watersheds and their associated nearshore and estuarine areas that currently have summer chum

populations (Level 1 watersheds), followed by those that have populations that were recently extirpated (Level 2 watersheds). Actions are also proposed for other areas that presently do not harbor summer chum populations, but whose protection and restoration may be important for summer chum salmon population viability, but less so than Level 1 and 2 watersheds. The HCCC Plan prioritization approach focusing on watersheds and marine areas occupied or recently occupied by summer chum salmon is consistent with the extent of critical habitat designated by NMFS for this ESU, and coincides with NMFS critical habitat protective priorities.

***Comment #4*:** One commenter argued that no serious consideration was given in the plan to the notion that wild populations might be significantly improved in the absence of hatchery supplementation, and that difficulties in assessing that possibility were ignored in the HCCC Plan.

***Response*:** NMFS disagrees. Substantial consideration was given to the appropriateness of using supplementation and reintroduction actions for the listed Hood Canal summer chum salmon ESU (WDFW and PNPTT 2000; NMFS 2002a; 2002b). The supplementation and reintroduction approach carried forth in the HCCC Plan was specifically developed to preserve and restore summer chum populations identified as at moderate or high risk of extinction. Prior to implementation of these hatchery programs, the abundance of summer chum in the entire ESU had declined to 1,000 or less in three out of four brood years, and populations had become recently extirpated in five watersheds (WDFW and PNPTT 2000). Reliance on habitat restoration alone to preserve the populations at immediate extinction risk was not an option. More natural-origin populations would have been extirpated (several had decreased to total annual adult returns of under 50 fish) without the implementation of the conservation-directed hatchery approach. Temporary supplementation and reintroduction programs were used to preserve and bolster the populations until appropriate and effective habitat restoration actions could be developed.

Mass marking of all supplementation and reintroduction chum fry release groups and application of extensive monitoring and evaluation programs to gauge program effects indicates that the hatchery programs have substantially improved the abundance status of supplemented populations, re-established spatial distribution of natural-origin fish, and benefited the viability status of the listed ESU (see supplemental annual monitoring and evaluation reports for the SCSCI at: http://wdfw.wa.gov/fish/chum/chum.htm and NMFS' evaluation of the programs as part of its most recent ESA listing review at http://www.nwr.noaa.gov/Publications/Biological-Status-Reviews/upload/SR2005-allspecies.pdf. Summer chum adult run size for the most recent four brood years has averaged 41,500 fish, with mark recovery analyses indicating that more than 70% are natural-origin fish. Through the HCCC Plan reintroduction programs, natural-origin adult returns (adult progeny of naturally spawning hatchery fish) have been re-established in two watersheds where the native populations were extirpated. NMFS expects implementation of habitat preservation and restoration actions proposed in the HCCC Plan will improve prospects for retaining robust natural-origin populations after the supplementation and reintroduction programs cease to operate.

***Comment #5*:** Once commenter suggested that a thorough and credible assessment of the effects of supplementation on summer chum salmon was not included in the HCCC Plan and that the Plan lacked adequate monitoring of hatchery program effects.

***Response*:** The HCCC Plan incorporates the summer chum salmon supplementation and reintroduction programs described in the SCSCI, and the specific hatchery programs implementing SCSCI prescribed impact reduction and monitoring and evaluation measures. The effects of these programs have been thoroughly reviewed by NMFS in the 2002 biological opinion, in ESA 4(d) Rule limit 5 evaluation and determination document, and in NMFS' review of the effects of the programs on the listing status of the ESU (see links previously provided for these evaluation documents). The SCSCI and NMFS' biological opinion evaluating the effects of Hood Canal summer chum supplementation and reintroduction efforts describe the general and specific monitoring and evaluation requirements that were incorporated into the hatchery and genetic plans approved under the ESA for each program. The hatchery programs and their effects are thoroughly monitored, and results of monitoring can be reviewed in annual supplemental reports prepared by the co-managers (for the most recent report see: http://wdfw.wa.gov/fish/chum/sumshum05.pdf).

***Comment #6*:** One commenter stated that harvest impacts on summer chum are not clearly justified in terms of ability of the populations to sustain this mortality source.

Response: NMFS disagrees. The HCCC Plan incorporates the harvest management approach specified in the SCSCI and a resource management plan completed by the co-managers as the means to help recover summer chum populations through implementation of conservative harvest strategies. NMFS evaluated the proposed harvest approach in a 2001 section 7 biological opinion and determined that the harvest actions were not likely to jeopardize the continued existence of the Hood Canal summer chum salmon ESU, nor to result in the destruction or adverse modification of designated critical habitats for the ESU (available at: http://seahorse.nmfs.noaa.gov/pls/pcts-pub/sxn7.pcts_upload.download?p_file=F25861/200101431_tribal_chum_09-14-2001.pdf).

NMFS determined that the harvest management approach adequately limits fishing mortality to a rate that permits a high proportion of the summer chum salmon run to return to the spawning grounds and thus accommodate the maintenance and rebuilding of self-sustaining populations. The approved harvest management measures are designed to apportion harvest impacts between or within management units based on and responsive to population status and individual population characteristics, and to result in a broad distribution of spawners throughout all summer chum population areas in the Hood Canal and Strait of Juan de Fuca region. The harvest management actions, when coordinated with habitat protection/restoration and supplementation actions, should lead to the maintenance and restoration of genetic and biological diversity within the Hood Canal and Strait of Juan de Fuca region and provide for the conservation of the Hood Canal Summer-Run Chum Salmon ESU.

Comment #7: One commenter expressed concern that the cost estimates included in Appendix D of the HCCC Plan for six WSDOT projects located on Highway 101 were outdated and underestimated current construction, labor, and permitting costs, which have been increasing by 12 percent per year.

***Response*:** NMFS recognizes the costs for modifications in Highway 101 needed to improve habitat conditions for Hood Canal summer chum salmon populations were best estimates at the time the Plan was being drafted. As noted in the consultant's cost report referenced in the HCCC Plan, further work on the cost estimates is needed to improve their accuracy. NMFS expects that cost estimates for all recovery-related activities will need updating as the plan is implemented and funding and adaptive management proceed.

***Comment #8*:** One commenter noted the inclusion in the HCCC Plan of six capital projects located on Highway 101 that, according to the commenter, are currently unlikely to be approved by the state legislature for funding or constructed within the initial 10-year time frame of the plan.

***Response*:** The HCCC Plan identifies actions needed to place the listed summer chum salmon ESU on a trajectory towards recovery. NMFS acknowledges that implementation of recovery actions proposed in the HCCC Plan is subject to the availability of sufficient funding and approvals from appropriate local, state, Tribal, and Federal jurisdictions. NMFS supports the HCCC's view that the projects still have a potential for implementation over the short term, assuming the action agencies follow through on the need to prioritize funding and construction of key projects that will benefit recovery and delisting of the summer chum salmon ESU.